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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,416	09/30/2003	Jui -Mei Hsu	CMOP0024USA	2415
27765	7590	12/01/2004	EXAMINER	
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE) P.O. BOX 506 MERRIFIELD, VA 22116			NGUYEN, THANH NHAN P	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,416

Applicant(s)

HSU, JUI -MEI

Examiner

(Nancy) Thanh-Nhan P Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al U.S. Patent No. 6,618,107.

Referring to claim 1, Tanaka et al discloses a liquid crystal display comprising a lower substrate (1a); an upper substrate (1b) positioned parallel with the lower substrate; and a plurality of pixel units, each of the pixel units including an upper transparent electrode (15), a liquid crystal layer (12), a lower transparent electrode (9), and a color filter (7); wherein a surface of each color filter has a plurality of recess structures, [see fig. 1].

Referring to claims 3-4, Tanaka et al discloses wherein each of the pixel units respectively comprises a reflection layer (4) positioned between the color filter and the lower substrate, and the liquid crystal display being a reflective liquid crystal display, [see fig. 1].

Claims 8-10 are rejected under 35 U.S.C 102(b) as being anticipated by Kim et al U.S. Patent Application Publication No. 2002/0018159.

Referring to claim 8, Kim et al discloses a liquid crystal display comprising: a lower substrate; an upper substrate positioned parallel with the lower substrate; and a plurality of pixel units, each of the pixel units including an upper transparent electrode, a liquid crystal layer, a lower transparent electrode, and a color filter; wherein each of the color filters includes both a first region and a second region, and a surface of the first region has a plurality of recess structures, [see paragraph 0046; fig. 4A, 4B].

Referring to claims 9-10, Kim et al discloses an area of the first region of the color filter is used to regulate brightness and a color deepness of the liquid crystal display; a distribution density of the recess structures is used to regulate brightness and a color deepness of the liquid crystal display, [see paragraphs 0044; and paragraph 0059, lines 1-4].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 2, 5-7, 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al and Kim et al in view of Matsushita et al U.S. Patent No. 6,501,521.

Referring to claims 5-6, Tanaka et al lacks disclosure of each of the reflection layers includes an opening, and the liquid crystal display being a semi-transmissive and semi-reflective liquid crystal display.

Matsushita et al discloses each of the reflection layers includes an opening, and the liquid crystal display being a semi-transmissive and semi-reflective liquid crystal display, [see fig. 8], for the benefit of improving the visibility, [see col. 11, lines 44-45]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have each of the reflection layers includes an opening for the benefit of improving the visibility.

Referring to claim 7, and 15, it was well known to use thin film transistors for controlling the pixel units in the liquid crystal display device. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use thin film transistors for controlling the pixel units.

Claim 2 is met the discussion regarding claims 9-10 rejection above.

Claims 11-12 are met the discussion regarding claims 3-4 rejection above.

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Referring to claims 13-14, Kim et al discloses an opening of the reflection layers respectively opposite to the second region of each color filter, and the liquid crystal display being a semi-transmissive and semi-reflective liquid crystal display, [see fig. 4A, 4B].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tanaka et al U.S. Patent No. 6,618,107 discloses the surface of each color filter has a plurality of recess structure in reflective liquid crystal display.

Kim et al U.S. Patent Application Publication No. 2002/0018159 discloses each of color filter includes both a first region and second region, and a surface of the first region has a plurality of recess structures.

Matsushita et al U.S. Patent No. 6,501,521 discloses the reflective layer having openings formed on a surface with smooth irregularities.

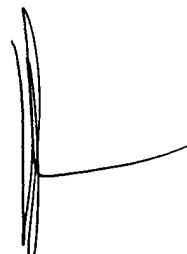
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P Nguyen
Examiner
Art Unit 2871



KENNETH PARKER
PRIMARY EXAMINER